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EXAMINER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte AMY L. NEHLS
and VERNON D. KARMAN

Appeal 2010-003728
Application 10/681,649
Technology Center 1700

Before CHARLES F. WARREN, PETER F. KRATZ, and
MARK NAGUMO, *Administrative Patent Judges*.

NAGUMO, *Administrative Patent Judge*.

DECISION ON APPEAL

A. Introduction¹

Amy L. Nehls and Vernon D. Karman (“Nehls”) timely appeal under 35 U.S.C. § 134(a) from the final rejection² of claims 1-16 and 28-32.³ We have jurisdiction. 35 U.S.C. § 6. We REVERSE.

The subject matter on appeal relates to methods for treating the surface of a food product with steam. Such methods are said to be desirable for reducing the number of microbes on the surface of the food product (Spec. 2, ll. 21-23) quickly (*id.* at 3, ll. 3-8) and in a relatively short steam sleeve length (*id.* at ll. 9-16.) As a result, significant savings in food production space are said to be gained, and the steam sleeve can be added to existing processing equipment with minimal modification. (*Id.* at ll. 16-19.) In certain embodiments, a long food product may be passed through a shorter steaming station, which is followed immediately by a slicing station. (Spec. 21.) In certain embodiments, a helical steam channel is provided, which is said to assist in the generation by the steam flow velocity of centrifugal forces that tend to keep steam condensate (which acts like an insulating barrier) moving to the outer part of the channel and away from the surface of the food product. As a result, high heat transfer to the surface of the food product is said to be maintained. (Spec. 3, ll. 26-32.)

¹ Application 10/681,649, *Apparatus and Method for Surface Treatment of a Food Product*, filed 8 October 2003. The specification is cited as “Spec.” The real party in interest is listed as Kraft Food Holdings, Inc. (Appeal Brief, filed 10 June 2009 (“Br.”), 3.)

² Office action mailed 13 November 2008.

³ Copending claims 17-27 have been withdrawn from consideration and are not before us. (FR 1; Br. 3.)

Representative Claim 1 reads:

1. A method of treating an outer surface of a food product,
the method comprising:
 - placing a food product having an outer surface on an
advancement mechanism;
 - providing a steam sleeve for generating a flow of steam
having selected properties to treat the outer surface of the
food product,
 - the steam sleeve having an interior wall, an
entrance and an exit,
 - the steam sleeve having an interior length defined
by the distance between the entrance and the exit;
 - passing the food product in a feed direction through the
steam sleeve using the advancement mechanism,
 - the food product having a length greater than the
interior length of the steam sleeve such that the
food product simultaneously extends beyond both
the entrance and exit during at least part of the
step of passing the food product through the steam
sleeve; and*
 - generating the flow of steam in the steam sleeve while
the food product is passing therethrough,
 - the flow of steam contacting the outer surface of
the food product for treatment of the outer surface
of the food product.*

(Claims App., Br. 29; indentation, paragraphing, and emphasis added.)

Representative Claim 28 reads:

28. A method of treating an outer surface of a food product,
the method comprising:
 - placing a food product having an outer surface on an
advancement mechanism;

providing a steam sleeve for generating a flow of steam having selected properties to treat the outer surface of the food product,

the steam sleeve having an interior wall, an entrance and an exit, the steam sleeve having an interior length defined by the distance between the entrance and the exit;

passing the food product in a feed direction through the steam sleeve using the advancement mechanism; and

generating the flow of steam in the steam sleeve and

circulating the flow of steam in the steam sleeve within a channel formed in the interior wall of the sleeve,

the channel having an inlet for introduction of the steam into the sleeve and an outlet for removal of the steam and condensate from the sleeve,

the channel inwardly open to an interior of the sleeve while the food product is passing therethrough,

the flow of steam contacting the outer surface of the food product for treatment of the outer surface of the food product.

(Claims App., Br. 36; indentation and paragraphing added.)

The methods defined by claims 1 and 28 both require that the steam contact the outer surface of the food product. Claim 1 requires that the food product be longer than the steam sleeve, such that the food product stick out of both ends of the steam sleeve during some part of the processing.

Claim 28 requires that the steam circulate through a channel that is open to the inside of the steam sleeve, and that the steam contact the outer surface of the food product. Claims 29-32 depend from claim 28. Claim 2 depends from claim 1 and requires an inwardly open steam channel formed in the

interior wall of the steam sleeve, as do claims 3-7 and 10, which depend, directly or indirectly, from claim 2.

The Examiner has maintained the following grounds of rejection:⁴

- A. Claims 1, 8, 9, and 11 stand rejected under 35 U.S.C. § 103(a) in view of the combined teachings of Morris,⁵ Wallace,⁶ Peebles,⁷ and Stark.⁸
- B. Claims 2, 28, 29, and 32 stand rejected under 35 U.S.C. § 103(a) in view of the combined teachings of the references relied in in Rejection A and Moreland.⁹
- C. Claims 3-7, 10, 12-16, 30, and 31 stand rejected under 35 U.S.C. § 103(a) in view of the combined teachings of the references relied in in Rejection B, Wilson,¹⁰ Cronin,¹¹ Gressly,¹² and Abrams.¹³
- D. Claims 28-31 stand rejected under 35 U.S.C. § 103(a) in view of the combined teachings of Wilson and Moreland.

⁴ Examiner's Answer mailed 17 September 2009 ("Ans.").

⁵ William F. Morris, Jr., *Poultry Preparation Process and Apparatus*, U.S. Patent 5,439,694 (1995).

⁶ Charles H. Wallace, *Method for Producing Skinless Wieners*, U.S. Patent 3,620,766 (1971).

⁷ David D. Peebles, *Sterilizing Process*, U.S. Patent 3,052,559 (1962).

⁸ Sven O.S. Stark, *Arrangement for the Continuous Heat Treatment and Packaging of a Liquid Product*, U.S. Patent 4,782,643 (1988).

⁹ Stephen T. Moreland, *Method for Making Skinless Sausages*, U.S. Patent 3,005,716 (1961).

¹⁰ Robert C. Wilson et al., U.S. Patent 5,711,981 (1998).

¹¹ Eugene J. Cronin, U.S. Patent 2,919,639 (1960).

¹² Kuno E. Gressly, U.S. Patent 2,682,827 (1954).

¹³ Victor R. Abrams, U.S. Patent 2,909,985 (1959).

B. Discussion

Findings of fact throughout this Opinion are supported by a preponderance of the evidence of record.

The Examiner relies on Morris, which describes, *inter alia*, the steam treatment of eviscerated chicken carcasses. The steam treatment is said to relax muscles in the skin that hold the feathers in, and also to relax muscles in the skin that open and close pores. (Morris, col. 1, ll. 60-67.) As a result, the feathers are more easily removed by the picking machines (*id.* at ll. 64-65), and moisture uptake in the chiller can be accomplished more quickly and with greater control (*id.* at col. 1, l. 68, to col. 2, l. 3). Moreover, of course, the steaming provides an opportunity to sterilize the carcasses to minimize bacterial contamination. (*Id.* at col. 2, ll. 3-37.)

Recognizing that Morris only describes steam chambers much longer than a single chicken (see Morris, Fig. 1), the Examiner finds that Wallace, Peebles, and Stark, provide examples in which a long food product is passed through a treatment zone that is shorter than the food product. (Ans. 5.) Peebles, the Examiner points out, teaches applying steam to the food product (*id.*, citing Peebles, Figure 1, section 19 [sic: 18A]).¹⁴ The Examiner finds that “the art taken as a whole teaches that it was conventional to treat the

¹⁴ Wallace teaches treating linked encased wieners with acid to provide a skin, followed by curing in an oven, steam treatment upon exiting the oven, followed by a cooling bath. (Wallace, Fig. 2 and col. 3, ll. 16-25.) Stark teaches sterilizing milk in a flattened plastic tube at 3 atmospheres and 140°C (Stark, col. 11, ll. 20-64) by heat provided by induction coil-induced eddy currents in steel bands that confine the tube of milk (*id.* at 13, ll. 3-20).

outer surface of a conventional food product [that is longer than the treating section of the apparatus].” (*Id.*) The Examiner concludes that it “would have been an obvious matter of choice and/or design that would have been a function of the length of the particular conventional food product that was desired to be sterilized.” (*Id.*)

The epithet “obvious as a matter of choice or design” is appropriate when various possible methods of doing something have been shown to have been recognized to be equivalent by persons having ordinary skill in the art. As Nehls argues (Ans. 23), each of Wallace, Peebles, and Stark relates to the treatment of food products that cannot, at least initially, maintain their own shape. Thus, each provides a tubular container that is made of a non-edible plastic, and each treats the exterior of the tubular container, not the food product itself, in order to perform the treatment or sterilization. We do not understand Nehls to argue that chickens (Morris), skinless wieners (Wallace), highly viscous or paste-like materials in sealed containers (Peebles), and liquid products like milk (Stark), are all “conventional food products.” The Examiner, however, has failed to show any basis for modifying the steaming of eviscerated chicken carcasses taught by Morris by any of the processes for treating sections of the tubes of liquid food products taught by the secondary references. For example, both Peebles and Stark require significant distortion of the cross section of the encased food product as an integral part of their sterilization processes. There is no credible evidence in the record that chicken carcasses would be so treated. Moreover, Wallace describes the wiener sections 20 as being tied into “individual uncured wiener sections” by a tying machine 18. Each wiener is

much shorter than cooking oven 30, and the steam spray nozzles 32 are not shown or described as being in anything that could reasonably be called a steam sleeve. (Wallace, Figure 1; col. 2, l. 31, and col. 3, ll. 1-3.) Thus, the Examiner's argument that the combined teachings would have rendered the process covered by claim 1 obvious is not supported by the evidence of record.

In rejections B and D of claim 28 and similar claims, the Examiner relies on Moreland as showing a helical steam channel 43 that is open to the interior of the steam sleeve. (Ans. 7.) As Nehls argues, Moreland Figure 3, on which the Examiner relies, shows that channel 43 is a conduit that wraps around the outside of tube 19, through which the sausage emulsion flows. (Moreland, col. 2, ll. 48-59.) Thus, channel 43 is not open to the interior of the skinless-sausage making apparatus described by Moreland, and steam does not contact the outer surface of the food product, as required by claim 28. Accordingly, we REVERSE Rejections B and D.

The Examiner does not rely on the additional references cited in Rejection C in any way that cures the defects of the primary references.

C. Order

We REVERSE all the rejections maintained by the Examiner.

REVERSED

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